

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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SUBJECT: Annotated Bibliography of Climate Change Adaptation Response and Vulnerability Assessment: Reports and Articles

Annotated Bibliography

Vulnerability Assessment Guidebooks and Tools

Preparing for Climate Change: A Guidebook for Local, Regional and State Governments. ICLEI; King County, Washington; Climate Impacts Group, 2007.

<http://cses.washington.edu/cig/fpt/guidebook.shtml>

A "how-to" manual for taking adaptation all the way from theory to implementation, specifically designed for local and regional governments. This guidebook provides a lot of detailed information necessary for policy construction, a table of possible adaptive strategies, framework for assessing vulnerability and a section on implementation and lessons learned.

Coastal Hazards and Climate Change: A Guidance Manual for Local Government in New Zealand. New Zealand Climate Change Office. May 2004.

<http://www.mfe.govt.nz/publications/climate/coastal-hazards-may04/index.html>

A detailed manual for coastal communities in New Zealand. The primary strength of this report is in the detailed chapters describing risk assessment and evaluation including a quantitative measure and model. There is also a very detailed implementation section based on seven identified principles of management option.

Community Vulnerability Assessment Tool (CVAT). NOAA Coastal Services Center. 1999

<http://www.csc.noaa.gov/products/nchaz/startup.htm>

Step-by-Step process for evaluating hazard impacts for communities and local governments. The website includes a case study and detailed information on the GIS analysis used in this method.

Cities Preparing for Climate Change: A Study of 6 Urban Regions. Clean Air Partnership, May

2007. http://adaptation.nrcan.gc.ca/index_e.pjp

Using the experience of 6 cities in the U.S., Canada and the U.K., this report examines how climate change adaptation strategies and systemic assessment of impacts can be conducted. The report provides a good overview of adaptation options, barriers and lessons from early adopters.

Adapting to Climate Change: An Introduction for Canadian Municipalities. Canadian Climate Impacts and Adaptation Research. February 2006. http://www.c-cairn.ca/adapting_e.html

A relatively short introductory report that covers six case-studies of Canadian cities. The primary strength of this report are the suggested adaptive actions developed in the case studies.



Making San Francisco Bay Better

Climate Change Risk and Vulnerability: Promoting an Efficient Adaptation Response in Australia. Australian Greenhouse Office. Allen Consulting Group. March 2005.
<http://www.greenhouse.gov.au/impacts/publications/risk-vulnerability.html>

A detailed report focusing on many Australia-specific issues and details. The report develops a framework that evaluates exposure, sensitivity, and adaptive capacity to form a vulnerability assessment. The theoretical concept of this framework could be applied in a regional context outside of Australia.

Reports and Case Studies

A Survey of Climate Change Adaptation Planning. The H. John Heinz III Center for Science, Economics and the Environment. Washington, DC. October 2007.
http://www.heinzctr.org/Press_Releases/adaptation_survey.shtml

The most comprehensive report of climate change adaptation planning that has been compiled. This report contains most of the detailed resources for adaptation and vulnerability analysis that focus on the U.S. and the Western world. This report surveys eight existing adaptation plans and 18 adaptation planning efforts in a variety of countries and ecosystems and identifies an outstanding characteristic of each plan and planning effort. While this report does not provide a step-by-step method of vulnerability analysis it does provide a useful summary of other plans and projects that do and an comprehensive sample of case studies from around the US and world.

The 8 adaptation plans analyzed include:

- "Preparing for Climate Change: A Guidebook for Local, Regional and State Governments" (ICLEI; King County, Washington; Climate Impacts Group, 2007 projected).
- "Cities Preparing for Climate Change: A Study of 6 Urban Regions" (Clean Air Partnership, May 2007).
- "Adapting to Climate Change: An Introduction for Canadian Municipalities" (Canadian Climate Impacts and Adaptation Research, February 2006).
- "Surviving Climate Change on Small Islands: A Guidebook" (Tyndall Centre for Climate Change Research, October 2005).
- "Climate Change Risk and Vulnerability: Promoting an Efficient Adaptation Response in Australia" (Australian Greenhouse Office, March 2005).
- "Coastal Hazards and Climate Change: A Guidance Manual for Local Government in New Zealand" (New Zealand Climate Change Office, May 2004).
- "Climate Adaptation: Risk, Uncertainty and Decision-making" (UK Climate Impacts Programme, May 2003)
- "Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies" (United Nations Environment Programme; Institute for Environmental Studies, Vrije Universiteit, Amsterdam; October 1998).

Regional Impacts of Climate Change. Pew Center of Global Climate Change. December 2007.
https://www.pewclimate.org/regional_impacts

This report presents four case studies of specific climate change impacts in different regions of the country, these include: "The Heat is On: Climate Change and Heatwaves in the Midwest"; "The Importance of Climate Change for Future Wildfire Scenarios in the Western United States"; "Gulf Coast Wetland Sustainability in a Changing Climate"; "Ramifications of Climate Change for Chesapeake Bay Hypoxia". Although the studies in this report address specific regional impacts, cross-cutting themes emerge that are relevant to a wide array of regional and local climate change impacts.

Our Changing Climate: Assessing the Risks to California. California Climate Change Center. July 2006. http://www.climatechange.ca.gov/biennial_reports/2006report/index.html

This report introduces IPCC climate scenarios and the potential impacts on California and

specifically addresses probable impacts to public health, water resources, agriculture, forests and landscapes, and rising sea levels. Although some climate change will happen based on current greenhouse gas levels, the most severe consequences for California that are expected from the medium and higher warming ranges could be avoided if heat trapping emissions could be reduced to lower warming ranges. This report states that reducing heat trapping emissions is the most important way to slow the rate of global warming, additionally California needs to implement management practices that integrate climate risks into long-term planning strategies.

Hot Properties: How Global Warming Could Transform B.C.'s Real Estate Sector. David Suzuki Foundation. November 2007. http://www.davidsuzuki.org/Publications/hot_properties.asp

This report examines the effect of climate change and climate change planning on the real estate sector. While this report does not detail vulnerability assessments or adaptation strategies it does provide valuable insight into specific responses that developers, builders and real estate companies may begin to adopt in response to climate change.

Confronting Climate Change in the U.S. Northeast: Science, Impacts and Solutions. Northeast Climate Impacts Assessment. July 11, 2007. www.northeastclimateimpacts.org/

An in-depth analysis of the likely climate change impacts based on emissions scenarios in the NE broken down by coastal, marine, forest, water, agriculture, winter recreation and human health. This report also proposes a number of steps that individuals, municipalities, and industry can take to reduce emissions.

Measuring the Impacts of Climate Change on North Carolina Coastal Resources. National Commission on Energy Policy. March 15, 2007. <http://econ.appstate.edu/climate/>

Regional study for coastal North Carolina assessing coastal impacts, impacts on real estate markets, impacts on recreation and tourism and impacts on business and industry.

Impacts of Climate Change: A System of Vulnerability Approach to Consider the Potential Impacts to 2050 of a Mid-upper Greenhouse Gas Emissions Scenario. Global Business Network. January 2007. <http://www.gbn.com/ArticleDisplayServlet.srv?aid=39932>

The goal of this report is to determine the security implications of climate change. Rather than starting with climate change and then working outwards to impacts, this study examines which systems are already consider vulnerable and then examines how climate change might affect those systems. The author's reasons for this approach are to 1) limit the number of logical steps necessary for thinking about the impacts of climate change, enabling more confident insights and conclusions, and 2) cutting across analytical stovepipes and giving regional specialists a framework for thinking about what climate change will mean for their particular areas, based on expertise they already have.

Confronting Climate Change in the Great Lakes Region: Impacts on Our Communities and Ecosystems. Union of Concerned Scientists and the Ecological Society of America. 2005. <http://www.ucsusa.org/greatlakes/>

This report covers the ecosystems around the Great Lakes in the states of Minnesota, Wisconsin, Illinois, Indiana, Ohio, Michigan, New York and part of Pennsylvania. It specifically identifies probable impacts on ecosystems and the goods and services they provide including those to agriculture, and economic, social and health impacts and provides general recommendations on how Great Lakes residents can address the changing climate. Also included are specific recommendations on reducing emissions for both industry and personal use, and anticipating and planning for future impacts through adaptation and management.